

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for sharing a multiple queue Ethernet adapter comprising:

receiving a frame or packet in the adapter;

determining whether the frame or packet is for one or more of a plurality of partitions that share the adapter;
and

if the frame or packet is for one or more of the plurality of partitions that share the adapter:

storing the frame or packet in an adapter cache memory;

determining one or more of the plurality of partitions to which the frame or packet is to be sent; and

~~transferring, via a processor including executable code that is usable to send partition information from a partition management tool to a hosting partition,~~ the frame or packet from the adapter cache memory directly to a receive queue of each of the one or more partitions to which the frame or packet is to be sent.

2. (Original) The method of claim 1 further comprising, if the frame or packet is for one or more of the plurality of partitions that share the adapter, generating an interrupt to notify each of the one or more partitions to which the frame or packet is transferred of the frame or packet.

3. (Original) The method of claim 1 wherein determining one or more of the plurality of partitions to which the frame or packet is to be sent includes:

accessing a table stored in the adapter; and
determining one or more of the plurality of partitions
to which the frame or packet is to be sent based on data
stored in the table.

4. (Original) The method of claim 3 wherein
determining one or more of the plurality of partitions to
which the frame or packet is to be sent based on data stored
in the table includes determining one or more of the
plurality of partitions to which the frame or packet is to
be sent based on at least one of a MAC address, VLAN ID/MAC
address pair and an IP address stored in the table.

5. (Original) The method of claim 1 wherein
determining one or more of the plurality of partitions to
which the frame or packet is to be sent includes:

accessing a value stored in a register, the value
indicating a type of address to use for determining one or
more of the plurality partitions to which the frame or
packet is to be sent;

accessing a table stored in the adapter; and
determining one or more of the plurality of partitions
to which the frame or packet is to be sent based on the
value stored in the register and data stored in the table.

6. (Currently Amended) A method for sharing a multiple
queue Ethernet adapter comprising:

determining whether one or more of a plurality of
partitions have a frame or packet to transmit; and

if one or more of the plurality of partitions have a
frame or packet to transmit:

selecting a partition from the plurality of partitions that have a frame or packet to transmit;
transferring, ~~via a processor including executable code that is usable to send partition information from a partition management tool to a hosting partition,~~ the frame or packet corresponding to the selected partition from a transmit queue of the selected partition directly to the adapter cache memory; and
transmitting the frame or packet from the adapter.

7. (Original) The method of claim 6 wherein determining whether one or more of the plurality of partitions have a frame or packet to transmit includes:
polling a transmit queue corresponding to each of the plurality of partitions; and

determining whether one or more of the plurality of partitions have a frame or packet to transmit based on polling results from one or more of the plurality of partitions.

8. (Original) The method of claim 6 wherein selecting a partition from the plurality of partitions that have a frame or packet to transmit includes:
accessing a table stored in the adapter; and
selecting a partition from the plurality of partitions that have a frame or packet to transmit based on data stored in the table.

9. (Original) The method of claim 8 wherein selecting a partition from the plurality of partitions that have a frame or packet to transmit based on data stored in the

table includes selecting a partition from the plurality of partitions that have a frame or packet to transmit based on a priority value stored in the table.

10. (Currently Amended) A method of sharing a multiple queue Ethernet adapter comprising:

employing a receive queue and a transmit queue for each of a plurality of partitions included in a computer system—
~~and, for at least one partition, employing at least two receive queues and two transmit queues; and~~

at least one of transferring a frame or packet from the transmit queue of one of the plurality of partitions directly to the adapter cache memory, and transferring a frame or packet from the adapter directly to the receive queue of one of the plurality of partitions.

11. (Original) The method of claim 10 wherein transferring a frame or packet from the transmit queue of one of the plurality of partitions to the adapter cache memory includes:

accessing a table stored in the adapter; and

transferring a frame or packet from the transmit queue of one of the plurality of partitions to the adapter cache memory based on data stored in the table; and

wherein transferring a frame or packet from the adapter to the receive queue of one of the plurality of partitions includes:

accessing the table stored in the adapter; and

transferring a frame or packet from the adapter to the receive queue of one of the plurality of partitions based on data stored in the table.

12. (Currently Amended) A method of configuring a plurality of partitions of a computer system to share a multiple queue Ethernet adapter comprising:

creating a new partition in the computer system; and

allowing the new partition to directly share the adapter with one or more other partitions of the computer system, ~~the allowing including:~~

~~selecting, via a partition management tool included in one of the partitions, the new partition to share the adapter; and~~

~~sending the address of the selected partition to a firmware of the computer system.~~

13. (Currently Amended) The method of claim 12 wherein allowing the new partition to share the adapter with one or more other partitions of the computer system includes:

selecting the new partition to share the adapter;

sending the address of the selected partition to firmware of the computer system;

employing the firmware to notify a hosting partition that the new partition is allowed to share the adapter; and

updating a table stored in the adapter, the table storing information about the queues corresponding to each partition that shares the adapter.

14. (Original) The method of claim 13 further comprising notifying the firmware of an interrupt corresponding to the new partition.

15. (Original) The method of claim 13 further comprising updating a table stored in the hosting partition.

16. (Original) The method of claim 15 wherein updating the table stored in the adapter includes updating the table stored in the adapter with the table stored in the hosting partition.

17-34. (Canceled)

35. (Original) The method of claim 1 wherein:
determining whether the frame or packet is for one or more of a plurality of partitions that share the adapter includes determining the frame or packet is a broadcast frame or packet; and

transferring the frame or packet from the adapter cache memory to a receive queue of each of the one or more partitions to which the frame or packet is to be sent includes transferring the broadcast frame or packet from the adapter cache memory to a receive queue of all of the plurality of partitions that share the adapter.

36. (Original) The method of claim 2 wherein generating an interrupt to notify each of the one or more partitions to which the frame or packet is transferred of the frame or packet includes generating a Message Signaling Interrupt (MSI) to notify each of the one or more partitions to which the frame or packet is transferred of the frame or packet.

37. (Original) The method of claim 6 wherein: transferring the frame or packet corresponding to the selected partition from a transmit queue of the selected partition to the adapter cache memory includes determining the frame or packet transferred from the transmit queue of the selected partition to the adapter cache memory is a broadcast frame or packet; and transmitting the frame or packet from the adapter includes transferring the broadcast frame or packet to the receive queue of all partitions that share the adapter except for the selected partition.

38-40. (Canceled)

41. (Original) The method of claim 6 wherein transmitting the frame or packet from the adapter includes transmitting the frame or packet using a network connection or transmitting the frame or packet to one or more of the plurality of partitions.

42-44. (Canceled)